

High-Efficiency GaN-Based UV Imaging Photocathodes for Application in Harsh Environments, Phase I

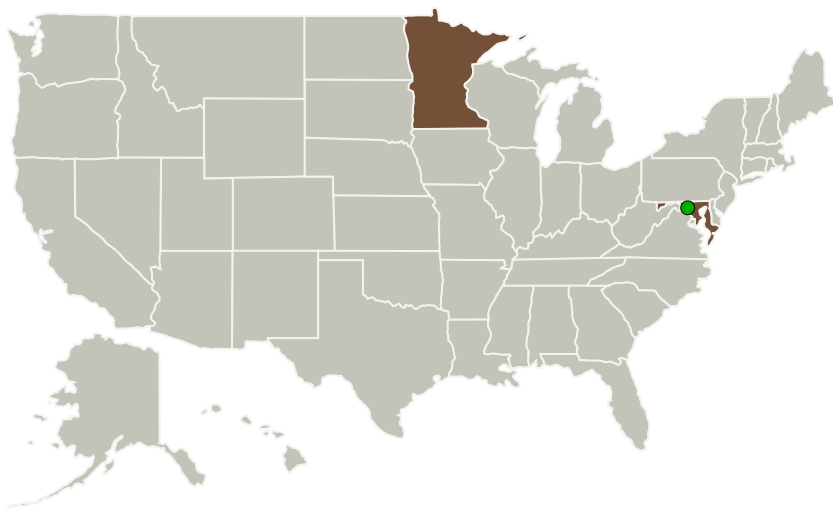
Completed Technology Project (2011 - 2011)




Project Introduction

This proposal is directed toward the development of innovative high-efficiency UV photocathodes based on the wide bandgap III-nitride semiconductors for reliable operation at high temperature and high radiation environments for future NASA missions near the Sun and in deep atmospheres of Venus and Jupiter. The proposed work includes the incorporation of these photocathodes on Al₂O₃-based high-temperature micro-channel plates (MCPs) for high-sensitivity UV photon counting and imaging

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
SVT Associates	Lead Organization	Industry	Eden Prairie, Minnesota
 Goddard Space Flight Center(GSFC)	Supporting Organization	NASA Center	Greenbelt, Maryland

Primary U.S. Work Locations

Maryland	Minnesota
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Project Transitions



February 2011: Project Start



September 2011: Closed out

Closeout Documentation:

- Final Summary Chart(<https://techport.nasa.gov/file/138252>)

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

SVT Associates

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

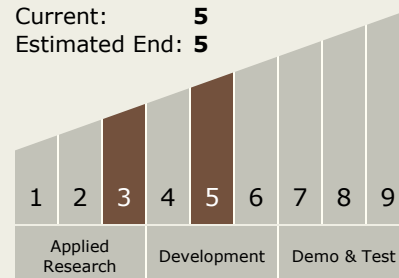
Andrew Wowchak

Technology Maturity (TRL)

Start: 3

Current: 5

Estimated End: 5



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Technology Areas

Primary:

- TX08 Sensors and Instruments
 - └ TX08.3 In-Situ Instruments and Sensors
 - └ TX08.3.1 Field and Particle Detectors

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System